

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Thomas H. Barrows et.al.
Serial No. : 09/185,732
Filed : November 4, 1998
Title : ADHESIVE SEALANT COMPOSITION

Art Unit : 1653
Examiner : J. Russel

Commissioner for Patents
Washington, D.C. 20231

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SURRENDER OF U.S. PATENT NO. 5,583,114

The Examiner recently indicated to Applicants that the claims pending in the above-captioned application are allowable.

Pursuant to the Offer to Surrender dated September 17, 1998, Applicant hereby surrender U.S. Patent No. 5,583,114. The original ribboned copy of the patent is enclosed.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 7-25-02



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5,583,114
Dec. 10, 96

The United States of America



The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

Commissioner of Patents and Trademarks

Melvinia Gary
Attest

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United States Patent [19]
Barrows et al.

[11] Patent Number: 5,583,114
[45] Date of Patent: Dec. 10, 1996

[54] ADHESIVE SEALANT COMPOSITION

[75] Inventors: Thomas H. Barrows, Cottage Grove; Terry W. Lewis, Woodbury; Myhanh T. Truong, Blaine, all of Minn.

[73] Assignee: Minnesota Mining and Manufacturing Company, Saint Paul, Minn.

[21] Appl. No.: 281,473

[22] Filed: Jul. 27, 1994

[51] Int. Cl. 6 A61K 38/00; A61K 39/00;
C07K 1/00

[52] U.S. Cl. 514/21; 514/2; 514/4;
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525/54.1

[58] Field of Search 514/21, 2, 4; 530/350;
530/362, 363, 366, 830; 424/77, 78.02,
78.06, 422, 423, 428; 524/54.1

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[57] ABSTRACT

This invention is related to an adhesive composition which may be used to bond or seal tissue in vivo. The adhesive composition is readily formed from a two component mixture which includes a first part of a protein, preferably a serum albumin protein, in an aqueous buffer having a pH in the range of about 8.0-11.0 and a second part of a water-compatible or water-soluble bifunctional crosslinking agent. When the two parts of the mixture are combined, the mixture is initially a liquid which cures in vivo on the surface of tissue in less than about one minute to give a strong, flexible, pliant substantive composition which bonds to the tissue and is absorbed in about four to sixty days. The adhesive composition may be used either to bond tissue, to seal tissue or to prevent tissue adhesions caused by surgery.